



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/033,920	01/03/2002	Tomoyuki Kayama	217916US0	2282

22850 7590 12/16/2003

OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

HAILEY, PATRICIA L

ART UNIT PAPER NUMBER

1755

DATE MAILED: 12/16/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/033,920

Applicant(s)

KAYAMA ET AL.

Examiner

Patricia L. Hailey

Art Unit

1755

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 October 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,6,9 and 14-16 is/are rejected.
- 7) ☒ Claim(s) 4,7,8,10-13 and 17-21 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
- a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

Art Unit: 1755

Applicants' remarks and amendments, filed on October 15, 2003, have been carefully considered. No claims have been canceled or added; claims 1-21 remain pending in this application.

It is respectfully suggested that line 2 of claim 15 be amended to recite the phrase "alkali metal nitrate includes LiNO_3 " to ensure proper claim continuity with claim 14.

Withdrawn Rejections

The 103(a) rejection of claims 1-11 and 14-21 as being obvious over Datta et al. (U. S. Patent No. 4,898,845) has been withdrawn in view of Applicants' persuasive arguments regarding this rejection.

Maintained Rejections

Claim Rejections - 35 USC § 103

1. Claims 1-3, 5, 6, 9, and 14-16 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Weimer et al. (U. S. Patent No. 6,565,820).

Weimer et al. disclose a catalyst comprising particles of molten salt supported on a support material. See col. 2, line 65 to col. 2, line 2 of Weimer et al., as well as col. 4, line 27.

Exemplary supports include silicon oxide, alumina, zirconia, titania, calcium oxide, and various types of materials. See col. 4, line 56 to col. 5, line 21 of Weimer et al.

Examples of the molten salt include lithium nitrate. Molten salt loadings are generally preferred to be as high as possible, such as less than 2% by weight based on the weight of non-porous support particles, and such as up to 20% by weight or more based on the weight of porous support particles. See col. 5, line 48 and col. 5, line 65 to col. 6, line 29 of Weimer et al.

The catalyst is useful in a number of chemical reactions, such as combustion reactions. See col. 1, lines 25-55 of Weimer et al., especially lines 44-55.

Although Weimer et al. do not specifically recite the claim limitation "for purifying particulate materials, which are contained in an exhaust gas emitted from an internal combustion engine of an

Art Unit: 1755

automobile and contain carbon", such a limitation is considered one of intended use. A recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

Additionally, because Weimer et al. as discussed above teach the limitations of the claims in their present form, i.e., molten salt components and support components comparable to that respectively claimed, it would have been obvious to one of ordinary skill in the art to expect that the catalyst of Weimer et al. to be useful for Applicants' intended use, absent the showing of convincing evidence to the contrary.

Response to Arguments

In response to Applicants' arguments that Weimer et al. disclose the performance of molten salt reactions and the formation of a fluidized bed of supported salt particles, it is the Examiner's position that the Weimer et al. reference is relied upon for its teachings with respect to the particles themselves, not for their employment in or as a fluidized bed, nor for their reaction with gas as a reactant.

Applicants argue that the present invention "provides for the capture of carbon by the molten salt with simultaneous oxidation and purification." The claims in their present form are directed to a molten salt catalyst, not to any of its properties or characteristics, that is encompassed by the teachings of Weimer et al.

The fact that Weimer et al. disclose the incorporation of the molten salt catalyst/support particles in a fluidized bed does not mean that the particles are different from the claimed catalyst. Regardless of the medium in which Patentees' catalyst are employed, the reference's teaching of what the particles comprise is what reads upon Applicants' claimed catalyst. Moreover, because Weimer et al. disclose that

Art Unit: 1755

the molten salt/support particles disclosed therein are useful in combustion reactions, one skilled in the art would expect that, since the particles of Weimer et al. are comparable to that instantly claimed, Patentees' particles would be suitable for purifying particulate materials, as recited in the instant claims.

For these reasons, Applicants' arguments are not persuasive.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Allowable Subject Matter

3. Claims 4, 7, 8, 10-13, and 17-21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. The following is a statement of reasons for the indication of allowable subject matter:
Weimer et al. do not teach or reasonably suggest the limitations of these claims.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Art Unit: 1755

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patricia L. Hailey whose telephone number is (703) 308-3317. The examiner can normally be reached on Mondays-Thursdays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L. Bell can be reached on (703) 308-3823. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-0661.

After the move to the new USPTO Headquarters in Alexandria, Virginia, tentatively scheduled for the week of December 22, 2003, Examiner Hailey's new phone number will be (571) 272-1369 and Mr. Bell's new phone number will be (571) 272-1362.


Lynn Hailey/plh
Examiner, Art Unit 1755
December 3, 2003


C. MELISSA KOSLOW
PRIMARY EXAMINER